

REMARKS

Present Status of Application

The Examiner is thanked for the thorough examination of the present application. The Office Action, however, has tentatively rejected all claims 1-30. In view of the amendments and remarks made herein, Applicant respectfully requests reconsideration of the rejections.

Objection to Specification

The Office Action objected to the specification because the first instance of the term "WIP" has not been defined. In response, Applicant has amended the specification to define "WIP" as "work-in-process." This is a very well known and understood acronym, which can be readily verify by a simple Internet (e.g., Google) search. Therefore, this amendment adds no new matter to the application.

Response to Rejections under 35 U.S.C. 112

Claims 1-30 stand rejected under 35 U.S.C. 112, second paragraph, as allegedly indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Applicant has amended the claims so as to overcome the 112 rejections.

Additionally, the Office Action pointed out that "the term 'unlimited capacity' is indefinite,..., since no known tools are actually capable of providing for such capacity". According to the claimed invention, the 'unlimited capacity' is assigned to a 'virtual tool' for calculating a backup demand. It is, therefore, not involved in whether or not tools are 'actually

capable of providing for such capacity'. In other words, the virtual tool is used for facilitating managing the backup fabrication.

Response to Rejections under 35 U.S.C. 102

Claims 1, 3-9, 11-16, 18-24 and 26-30 stand rejected under 35 U.S.C. 102(a) and (b) as allegedly anticipated by Ho et al. (US patent No. 6678566 and US Patent Application Publication 2002/0165629). Among these rejected claims, claims 1, 16, and 24 are independent claims. Remarks are provided regarding to patentability of the independent claims and claims depended thereto, respectively.

According to the claimed embodiments, a backup planning device is provided within a fabrication system. The fabrication system contains a plurality of separately located fabrication facilities, each of which comprises a plurality of tool groups, wherein each tool group comprises a plurality of tools. The backup planning device schedules backup operations between the fabrication facilities by introducing a virtual tool into each of the tool groups. The capacity of the virtual tool is combined into first capacity information of the tool group to generate second capacity information thereof accordingly. The first capacity information comprises capacity information of effective tools in the respective tool group, while the second capacity information comprises capacity information of effective tools plus the virtual tool. A first manufacturing plan for the tool group is determined according to a master production schedule (MPS), a work-in-process (WIP) profile, and the second capacity information thereof. A second manufacturing plan is determined according to the workload allocation of the virtual tool in the first manufacturing plan.

Claimed embodiments also provide a backup planning method for scheduling backup operations in the separately located fabrication facilities within the fabrication system mentioned above. First, first capacity information, a master production schedule, and a WIP profile of the tool group are provided. Second, a virtual tool is assigned to each of the tool groups. Then capacity of the virtual tool is combined into the first capacity information of the tool group to generate second capacity information thereof accordingly. Next, a first manufacturing plan for the tool group is determined according to the master production schedule, the WIP profile. Then, a second manufacturing plan is determined according to the workload allocation for the virtual tool in the first manufacturing plan.

Significantly, Ho et al. does not teach or suggest the implementation of a 'virtual tool' in the backup control system disclosed in the present invention.

For at least the reasons described above, the express recitation of independent claims 1, 16, and 24 cannot be obtained by including the teachings of Ho or other cited prior art. Therefore, claims 1, 16, and 24 patently define over the cited arts, and the rejections of claims 1, 16, and 24 should be withdrawn.

Claim 1 serves as the base claim for claims 2~15. As claim 1 patently defines over the cited art, claims 2~15 define over the prior art for at least the same reasons.

Claim 16 serves as the base claim for claims 17~23. As claim 16 patently define over the cited art, claims 17~23 define over the prior art for at least the same reasons.

Claim 24 serves as the base claim for claims 25~30. As claim 24 patently defines over the cited art, claims 25~30 define over the prior art for at least the same reasons.

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CONCLUSION

In view of the foregoing, it is believed that all pending claims are in proper condition for examination and allowance.

No fee is believed to be due in connection with this amendment and response to Office Action. If, however, any fee is believed to be due, you are hereby authorized to charge any such fee to deposit account No. 20-0778.

Respectfully submitted,

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